Listing of the Pending Claims

The following lists the presently pending claims.

Claim 1 (original): An electronic fingerprint apparatus for a machine, comprising:

an automation component comprising: a controller for controlling movements of at least one component of the machine, the automation component adapted for capturing electronic fingerprints representative of a state of the machine; ~~and~~

the automation component further comprising a fingerprint device for selecting for measurement a plurality of movements of the machine to generate an electronic fingerprint that is representative of a condition of the machine.

Claim 2 (original) The apparatus of claim 1, wherein the automation component is selected from the group consisting of a numeric control, a motion controller, a programmable logic controller or an intelligent drive.

Claim 3 (original): The apparatus of claim 1, wherein the automation component and a corresponding engineering system provide a program platform for the implementation of electronic fingerprints by an application engineer.

Claim 4 (original): The apparatus of claim 1, further comprising an engineering system corresponding to the automation component, wherein implementation of the fingerprints is done by at least one of a configuration process in the engineering system and a programming process using a specific API for the implementation of fingerprints.

Claim 5 (original): The apparatus of claim 1, wherein the start of capturing the fingerprints is done by an action selected from the group consisting of: starting by local user via local HMI; starting by remote user via Ethernet / Internet; and starting based on an event evaluated in an application program running in the automation component.

Claim 6 (original): The apparatus of claim 1, wherein the apparatus is used for a machine selected from the group consisting of: machine tools, packaging machines, a rubber-working machines; plastic-working machines; printing presses; woodworking machines; glassmaking machines; ceramic-working machines; stoneworking machines; textile machines; robotic manufacturing machines and materials handling machines.

Claim 7 (original): The apparatus of claim 1, wherein the fingerprint device and the automation component generate an electronic fingerprint that is generic to a type of machine tool that indicates a stable behavior of the machine tool.

Claim 8 (original): The apparatus of claim 2, wherein the fingerprint device and the automation component generate an electronic fingerprint having a deviation from the stable behavior, thereby indicating an unstable behavior of the machine.

Claim 9 (original): The apparatus of claim 1, wherein the fingerprint device and the automation component generates a specific fingerprint for a particular production machine that is representative of a state of at least one the outputs of the particular production machine and the stable behavior of the machine.

Claim 10 (original): The apparatus of claim 1, further comprising a graphical user interface for displaying a graphical depiction of the electronic fingerprint.

Claim 11 (original): The apparatus of claim 1, wherein the fingerprint device is adapted for generating a periodic electronic fingerprint that is developed from a snap shot of the state of the machine at a certain time.

Claim 12 (original): The apparatus of claim 6, further comprising an application for comparing the electronic fingerprints over time.

Claim 13 (original): The apparatus of claim 6, further comprising a memory for storing the electronic fingerprints as a database.

Claim 14 (original): The apparatus of claim 1, further comprising a maintenance scheduler for scheduling maintenance of the machine based on a prediction of a failure of the machine based on the electronic fingerprint.

Claim 15 (original): The apparatus of claim 1, further comprising a remote communication capability that couples the machine to a remote processor.

Claim 16 (original): The apparatus of claim 10, wherein the electronic fingerprint is downloaded over the remote communication to the remote processor.

Claim 17 (currently amended): In an automation component comprising a controller for controlling movements of at least one component of a machine, ~~A~~ a method for generating electronic fingerprints of ~~a~~ the machine, the method comprising the steps of:

~~electing~~ in the automation component selecting for measurement parameters associated with at least one component of the machine that are representative of a condition of the machine;

reading the parameters; and

storing the read parameters in storage coupled to the automation component, thereby creating an electronic fingerprint representative of a condition of the machine.

Claim 18 (original): The method of claim 17, wherein the step of selecting selects parameters that at a time when the machine is in a stable state to generate thereby a generic type of electronic fingerprint that indicates a stable behavior.

Claim 19 (original): The method of claim 18, wherein the step of selecting selects parameters having a deviation from the stable behavior, thereby generating an electronic fingerprint indicating an unstable behavior of the machine.

Claim 20 (original): The method of claim 17, wherein the step of selecting selects parameters from a particular production machine that is representative of a state of an output of the particular production machine,

Claim 21 (original): The method of claim 17, further comprising the step of generating a graphical depiction of the electronic fingerprint.

Claim 22 (original): The method of claim 17, further comprising the step of comparing the electronic fingerprints over time,

Claim 23 (original): The method of claim 17, further comprising the step of scheduling maintenance based on the electronic fingerprint.

Claim 24 (original): The method of claim 17, further comprising the step of remotely coupling the machine to a remote processor.

Claim 25 (currently amended): A computer readable program product having encoded therein instructions for driving a computer processor of an automation component comprising a controller for controlling movements of at least one component of a machine according to the steps of ~~claim 17~~:

~~electing~~ in the automation component selecting for measurement parameters associated with at least one component of the machine that are representative of a condition of the machine;

reading the parameters; and

storing the read parameters in storage coupled to the automation component, thereby creating an electronic fingerprint representative of a condition of the machine.